Populations were visited at irregular intervals up through the end of autumn (December 1992). During this period no nascent inflorescences were produced. In late autumn the axillary buds at the tips of new growth, which will give rise to flowering panicles the following spring, were swollen. These buds appeared to be entirely vegetative as hand sections of these buds, examined under 30× magnification, did not reveal any floral structures.

Populations were visited again in April 1993 and shrubs were in the initial stages of flowering. On the same shrub all stages of inflorescence development were evident, from dormant apical and axillary buds just breaking dormancy, to barely visible embryonic panicles and all stages of inflorescence development through to flowering. These flowering panicles arose from meristems on the old growth from the previous year, as is the case in other *Arctostaphylos* species.

Clearly, *A. pringlei* is set apart from the rest of *Arctostaphylos* in the lack of nascent inflorescence production. Outside the genus clearly evident nascent inflorescences are of limited distribution in the Ericaceae, although early floral development in the growing season prior to flowering is apparently widespread in the family (H. P. Bell and J. Burchill, Canadian Journal of Botany 33:547–561, 1955). *Arctostaphylos* is the largest of six genera within the subfamily Arbutoideae. The two most closely related genera, *Ornithostaphylos* and *Xylococcus* (indeed, older taxonomic treatments subsumed them in *Arctostaphylos*), produce nascent inflorescences in the year prior to flowering, as in *Arctostaphylos* (minus *A. pringlei*). *Comarostaphylis* and *Arctous* lack nascent inflorescences, as do North American *Arbutus* species; however the European *Arbutus unedo* does produce *Arctostaphylos*-like nascents (Keeley unpublished field and herbarium observations).

This profound phenological difference between *A. pringlei* and the rest of the genus sets this species apart and is consistent with other attributes. For example, Wells (Four Seasons 9(2):64–69, 1992) was so impressed with the uniqueness of *A. pringlei* that he erected a third section within subgenus *Arctostaphylos* for this species alone. The section, *Pictobracteata* Wells, is distinguished by large membraneous floral bracts, and the phenological observations reported here support its distinction from the rest of the genus.

A New Chromosome Number for *Saxifraga californica* (Saxifragaceae) with Implications for Its Relationships.—John F. Gaskin and Patrick E. Elvander, Department of Biology, University of California, Santa Cruz, CA 95064.

Saxifraga californica Greene and *Saxifraga fallax* Greene (Saxifragaceae) were treated as separate species by Munz (*A California Flora*, University of California Press, 1965). Elvander (Systematic Botany Monographs, 3:1–44, 1984) combined the two taxa into one species, *S. californica.* A study exploring the justification of Elvander's incorporation of these two species into one found no consistent or significant morphological differences between herbarium specimens (UC, JEPS) which were previously classified as *S. fallax* and herbarium specimens which were always classified as *S. californica.* During the study, buds were collected from a population (*Gaskin* 003, UCSC) that had previously been identified as *S. fallax* from the Sierra foothills and one (*Gaskin* 002, UCSC) that had always been identified as *S. californica* from the Coast Range of California. A consistent haploid chromosome number of $n=10$ was found for these specimens. This is the first chromosome number report for this species. It gives new insight into the relationship of *S. californica* to other members of the genus and supports the morphological conclusion that there is only one species.

The relationships of *S. californica* to other species in the section *Boraphila* series *Integrifoliae* have been difficult to determine since *S. californica* has morphological characters representative of both the *S. rhomboidea* (Greene) complex, representing

series *Nivali-virginiensis*, and the *S. integrifolia* (W.J. Hooker) complex, representing series *Integrifoliae* (Elvander 1984). *Saxifraga californica* is the only species studied in *Integrifoliae* with the putatively primitive characteristics of having anthers and stigmas maturing simultaneously and being self-incompatible. Other related species are protandrous and self-compatible (Elvander 1984). Engler and Irmscher [Das Pflanzenreich IV. 117 (Heft 67), Leipzig, 1916] placed *S. californica* in series *Nivali-virginienses* due to its prominently serrate leaves and reportedly superior ovaries. Elvander (1984) indicated that ovary position was actually inferior prior to fruit maturation, and on this basis, placed *S. californica* into series *Integrifoliae*, near the *S. rhomboidea* and *S. integrifolia* species complexes. Its ultimate affinities remained uncertain.

The new chromosome number suggests that *S. californica* is most closely related to a hypothetical "protointegrifolia" ancestral group (Elvander 1984), which is based on x = 10. In overall morphology, habit, and habitat, *S. californica* most closely resembles *S. nidifica* var. *claytoniifolia* (Canby ex Small) Elvander of the *S. integrifolia* complex, which has reported chromosome numbers of $n=10$ and 19 (Elvander 1984). The leaf morphology of *S. californica* suggests a relationship with the *S rhomboidea* complex, which has reported chromosome numbers of $n=10$, 19, 28, and 29 (Elvander 1984). Further systematic work is needed to resolve the relationships of *S. californica.*